CWA 106 Grant Proposal
FOR
KEWEENAW BAY INDIAN COMMUNITY
Revision 0.

Data Quality Objectives
Work Plan
FY 2011-FY2012

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Table of Contents

KEWEENAW BAY INDIAN COMMUNITY
CWA SECTION 106 PROGRAM

DATA QUALITY OBJECTIVES
AND
WORK PLAN FY2011-FY2012

I. Background

The Keweenaw Bay Indian Community (KBIC) is located in Baraga County in the northwestern part of Michigan's Upper Peninsula, near the southern terminus of Keweenaw Bay. The Reservation consists of 70,327 contiguous acres which includes approximately 17 miles of Lake Superior shoreline, 80 miles of streams and rivers, 15,000 acres of lakes and 3000 acres of wetlands. The Reservation borders the nearby village of L'Anse and encompasses the village of Baraga, Michigan. KBIC has concentrated housing units in Baraga, Zeba (a community 3 miles northeast of L'Anse), and the Township of Chocolay in Marquette County. Keweenaw Bay Indian Community was established by the Treaty of September 30, 1854. A map of the exterior boundaries of the L'Anse Reservation and other KBIC lands are provided as Attachment I.

Keweenaw Bay Indian Community currently has 3,076 enrolled members with a large number living within the L'Anse Reservation boundaries. The Tribe employs approximately 1000 people within tribal government and other tribally owned enterprises. The terrain within the boundaries of the Reservation is generally hilly with steep slopes rising near the Keweenaw Bay shore. Elevation ranges from 183 m at Keweenaw Bay to about 550 m in the most southeastern section of the Reservation. Habitats within the Reservation include rare interdunal wetlands, shoreline wetlands, critical fishery nursery habitats and forested uplands. The Reservation experiences a typical, four-season climate with the exception of effects from Lake Superior. These effects are in the form of moderated winter temperatures and extreme winter snowfall, up to a recorded maximum of 32 feet in the winter of 96-97.

II. Narrative

A. Needs

The Keweenaw Bay Indian Community is highly concerned about the quality and protection of its environment. In a calendar year 2000 survey conducted for the KBIC Integrated Resources Management Plan which was adopted by the council in 2003, water quality was the number one concern among tribal members. A strong cultural relationship between the Ojibwa people and their land has resulted in spiritual, medicinal, hunting, gathering and fishing practices that are especially susceptible to activities that adversely impact the environment. The Tribe wishes to ensure a high quality environment for its people by avoiding or mitigating any activities that are potentially detrimental to our land and water resources, our tribal members, and our culture. As a result of this commitment to the protection of our natural resources, the Keweenaw Bay Indian Community established the Keweenaw Bay Natural Resources Department. More recently, the KBIC Tribal Council established a Natural Resources Committee as part of the Keweenaw Bay Indian

Conservation District. The mission of this Committee, and of the Tribal Council, is to assist in the development and implementation of the resource management plans of the Natural Resources Department. Both actions of the KBIC Tribal government demonstrate its recognition of the need for the Community to manage its resources as well as a strong commitment of the KBIC Tribal government to address this need. To this end, KBIC has adopted a 10 year Integrated Resource Management Plan (IRMP) with established objectives and benchmarks, including water quality, to improve the long term management of natural resources for the entire community. The plan is to be revisited on an annual basis by all contributors in the plan. The plan was updated at the end of calendar year 2003.

Several mining corporations have begun actively exploring for metallic sulfide ore bodies within and nearby the L'Anse Indian Reservation. One firm has publicly stated their intent to pursue permitting of a nickel-sulfide mine in the Upper Peninsula to the East of the L'Anse Reservation. This company has also identified a copper sulfide ore body within the Reservation boundaries and is actively exploring this prospect using drilling and geophysical data collection methods. This potential mine site represents the most serious threat to the health and safety of Reservation water resources, located in the headwaters area of the Silver River Watershed, arguably the largest and most pristine watershed.

Continuing trends have the potential or have been observed to adversely impact the waters of the Reservation. These KBIC trends include 8 new commercial leases, 59 new home leases and 27 cabin leases from 2001-2003. KBIC continues to allow the harvest of logs on their land at a rate of ~ 200 acres/ year, and private logging interests vary from ~ 1,000 acres/ year. At present, there has been a noticeable increase in the number of new home starts on the Reservation. The lack of environmental health ordinances which require such things as: a specific setback from the water's edge, correction of failing septic systems, isolation distances for wells and septic systems, combined with an overall increase in the number of homes along water resources have the potential to increase runoff, erosion and the input of nutrients to our waters. While this type of ordinance hasn't been approved, a Utility Ordinance adopted in January of 2002 is a first step in reducing the human impacts to Reservation waters.

In addition, current and previous logging practices have adversely impacted areas within many watersheds on the Reservation. The sedimentation load for many streams has increased due to poorly constructed stream crossings and logging roads. Sedimentation adversely impacts critical habitat of macro invertebrate species and spawning areas for native fish. All aquatic species are important for a sustainable ecological community and for recreational and cultural uses among Tribal members on the Reservation.

During FY 2011, the primary objective of the Natural Resources Department will be to continue with the development of the various components which make up a comprehensive program to address water quality issues on the Reservation. This program will characterize and address the current problems related to water quality by 1) developing tailored water quality standards, 2) continuing with our pursuit of 303 program authorization, 3) continuing a water quality monitoring program, including a project focused on the Silver River Watershed and the potential metallic sulfide mining 4) continuing a watershed inventory, and working to continue funding for aquifer studies. 5) conducting public education and outreach. Pursuing these objectives will be the responsibility of tribal environmental staff consisting of one FTE Water Resources Specialist and one FTE Water Resources Technician. Due to the large size of the Reservation and the large scope of the work that

is required to address the water issues on the Reservation, funding will be required to achieve these objectives and to maintain a sufficient water staff. We will also work with the community and related agencies to represent our tribal perspective and educational approach on water issues.

B. Priorities

The primary objective of the Keweenaw Bay Indian Community is to develop a comprehensive water quality protection and management program. This program will consist of a number of different aspects:

To provide a foundation for this program, the first aspect will be to continue with our pursuit of CWA 303 program authorization and the adoption of Tribal Water Quality Standards. The establishment of tribal water quality standards will meet the unique needs of the Community by instituting a heightened protection of Reservation waters that is mandated by the nature of the traditional and spiritual uses of surface water by our culture. Also, these standards will serve as the foundation upon which the Tribe's water program will be built by establishing the water quality goals for the Reservation's waters.

The second aspect of the Water Quality Protection and Management Program will be the continued implementation of a surface water quality monitoring program. This program will serve to provide a basic screening of the quality of surface water resources on the Reservation. This study is designed to provide continued monitoring of all Reservation waters to be compared to the reference baseline data to track trends in water quality over time and to highlight potential, or emerging water quality impacts. A portion of this study will be a special project, focused on the Silver River Watershed:

It was anticipated that sufficient EPA funding would be available to continue the focused, surface water monitoring study in the Silver River Watershed began in FY2005 by the U.S. Geological Survey. However, current EPA funding will not meet this goal. The additional funds made available to KBIC specifically to address the sulfide mining issue in this fiscal year will be used to carry out as much of the original study as possible. KBIC will pursue additional, outside funding in order to complete the study. This study will attempt to address concerns of the community over the potential impact of proposed, metallic sulfide mining to the watershed by establishing a detailed, baseline study of some of the parameters necessary to characterize the impact of sulfide mining. Additional assessment of biologic parameters, such as macro invertebrate and fish assessments will be undertaken to further establish baseline conditions in the watershed.

The third aspect of the Water Quality Protection and Management Program will involve the continued involvement and participation of Natural Resources Departmental staff on local and regional committees with water protection goals. Local involvement will include participation in the KBIC Natural Resource Committee functions and as members of local "Area of Concern" public advisory council groups. Regional committees will include the Lake Superior Work Group's Habitat and Aquatic Committees. Continued KBIC involvement with the Lake Superior Task Force is also planned for this grant period. Participation in additional committees will occur as available staff hours and need arises. Recent developments concerning an increasing interest in sulfide mining within reservation boundaries are expected to dramatically increase the amount of time and resources spent on this aspect of the program, outside of current committee participation. The primary goal of our participation is to assure that the concerns of these committees and others reflect the best interests of the Community and that the programs established on the Reservation are

consistent with the goals of these committees, as well.

The fourth aspect of the Water Quality Protection and Management Program will involve activities related to public outreach and education, such as working with local schools and groups. The long term goals of these activities are to 1) educate the public about the importance of various aspects of water quality; 2) increase awareness of the ongoing projects within the department that function to protect water quality on the Reservation; 3) raise public awareness of how they can contribute in the effort to protect our waters. 4) Raise public awareness of projects and developments within and near the Reservation which may affect water quality on the Reservation.

The fifth aspect of the program is to address groundwater protection and safe drinking water issues on the Reservation with a watershed inventory. Many tribal members are dependent on wells and onsite waste treatment. A problem with poor quality/ unsafe drinking water has been documented throughout the reservation. A number of wells have been reported to be contaminated on the Reservation by nitrate, hydrogen sulfide, iron, manganese, and/or total Coliform. The source and the extent of this contamination are at present undefined. This contamination could be due to problems with well construction or may indicate groundwater contamination associated with a number of unabandoned wells, industrial, and household areas that are known to exist within the study area. In part, some of the contamination could also be generated from the aquifer rock bodies.

In order to fully protect and properly manage our groundwater resources, the Natural Resources Department will continue a watershed inventory project:

This project is designed to assess and protect groundwater resources on the reservation and will be the initiation of further study of the Silver Watershed Inventory, which was initiated in 1999 using BIA funding. This area represents a largely unpopulated and undeveloped region that is currently experiencing a rise in mining activities and development, particularly in the amount of exploratory drilling occurring in the upper reaches as well as new development downstream. The inventory will involve assessing groundwater and surface water quality. Surface water will be assessed for potential sources of pollution such as sedimentation and excess nutrient input. Also, water quality will be assessed through the chemical analysis of samples for various parameters. Groundwater quality will be assessed by sampling individual wells for nitrates, Coliform and other parameters. To assess possible sources of groundwater pollution, sanitary surveys of wells/onsite waste treatment systems and interviews of homeowners will be performed as well as tours of the major, industrial and municipal facilities within the watershed. The long term goals of this project are: 1) to compile a GIS database that will be used to assess if the individual problems discovered are indicative of problems that are related by spatial factors; 2) the protection and improvement of the water resources of the Reservation by identifying and correcting problems such as failed onsite waste treatment systems, unabandoned wells, sources of sedimentation or sources of excess nutrient input. To date assessments for all reservation watersheds have been completed.

A complimentary GIS/DRASTIC Aquifer Vulnerability Analysis performed by the Inter-Tribal Council of Michigan was completed and reviewed in the fall of 2003. The scope of the analysis covered the L'Anse Reservation and the surrounding watersheds and consisted of multiple GIS spatial analysis of parameters such as Depth to Bedrock, Soils, Depth to Water, Net Recharge, Aquifer Media, etc. This project utilized DRASTIC methodology, which applies a ranking to each parameter, based on its weighted affect on aquifer vulnerability, arriving at a spatial layer showing

varying aquifer vulnerability conditions within the reservation and its contributing watersheds.

We will continue support of this workplan with BIA Water Resources and Environmental Management funding for such projects as a well abandonment program, Stormwater Inspector Certification and possibly a third, USGS continuous stream gauging station. Other grant possibilities will be assessed for potential use in KBIC water program and project planning and implementation, such as a USFWS grant for wetlands delineation and plant inventories.

III. Base Program

A. Staff

Keweenaw Bay Indian Community is governed by The Keweenaw Bay Tribal Council. The Council consists of a President, Vice-President, Secretary, Assistant Secretary, Treasurer and seven additional council members. All Tribal Council seats are elected from two voting districts (Zeba and Baraga) for three-year terms. Tribal Council meetings are held regularly on a weekly basis.

In 1999, the Natural Resources Department was established by the Tribal Council to address environmental and natural resources management issues. The staff of the department consists of a Natural Resources Director, Fish and Wildlife Biologist, an Environmental Specialist, a Water Resources Specialist, a Natural Resources Specialist, an Environmental Response Program Specialist, two Natural Resources Technicians, one Water Resource Technician, and one secretary. The Natural Resources Department is managed by the Natural Resources Director who is supervised by the Tribal CEO. The Tribal CEO is supervised by the Tribal Council.

This proposal will fund a full time Water Resources Specialist and full time Water Resources Technician. Their respective duties include 1) Specialist: lead in the implementation of various surface water, ground water, wetlands, drinking water and wastewater programs for the Community; serve as a liaison with Indian Health Service; administer water quality grants and 2) Technician: assist Specialist with field work; maintain water laboratory; enter and compile relevant water quality data; assist with grant administration. These two staff members will implement the workplan described herein.

B. Funding Sources

The KBIC Natural Resource Department currently administers EPA General Assistance Program, EPA Brownfield and EPA Water Pollution Control grants. The Natural Resources Department also currently has BIA Water Resources and Environmental Management grants for use in the biological, physical, and chemical assessment of Reservation waters, as well as a well abandonment program. The Department also utilizes grant funding from the North American Wetlands Conservation Act for the acquisition of wetlands for preservation. An Administration for Native Americans (ANA) grant was used to develop a Tribal Conservation District and a consequent Natural Resources Committee. The department also administers various implementation grants from the U.S. Fish and Wildlife Service, USDA Rural Development, and the Natural Resources Conservation Service for activities such as stream habitat improvement, erosion control, public utility improvement, cultural research, land acquisition, wetlands and wildlife inventories.

IV. Work Plan FY 2011-FY 2012

The Keweenaw Bay Indian Community shall perform their water quality program and data collection activities as planned in this document. The Keweenaw Bay Indian Community's water quality protection and management program shall continue to build upon the program components developed during the past, five fiscal years. KBIC will undertake a self-evaluation of these components at the end of each fiscal year, in addition to the required reporting and deliverable schedule. This evaluation plan is a requirement of 40CFR, part 35.515. This self evaluation is part of the Water Program Grant Evaluation process and will include discussions on accomplishments, effectiveness, problem areas and suggestions concerning the workplan components. This will help facilitate the integration of the workplan components, insuring continuous progress toward and focus on the primary goal of the water program. The primary goal of this program is to maintain and protect the high quality of the water resources of the Community. Five components makeup this program and will be implemented during FY 2011- FY 2012.

These components are: 1) continuation of tribal water quality standards adoption and the CWA 303 program authorization process, 2) continuation of a surface water quality monitoring program, including monitoring focused on the Silver River Watershed, 3) continuation of a watershed inventory of Reservation water resources to identify current sources of water pollution, 4) participation in organizations with interests in water quality protection and management, 5) public education and outreach.

V. Tribal Assessment Report (TAR)

As part of the CWA Section 106 grant requirements, KBIC will submit a Tribal Assessment Report (TAR) to EPA Region 5 that will consist of three components including a Monitoring Strategy, Water Quality Assessment Report and electronic copies of water quality data.

A. Monitoring Strategy

The Monitoring Strategy is a deliverable for the FY08 funding period. The monitoring strategy will include the components listed in Appendix A: Assessment Reports I. Monitoring Strategies from the Final Guidance on Awards of Grants to Indian Tribes under Section 106 of the Clean Water Act document published October 2006. In summary, the strategy will include monitoring objectives describing the major goals and measurable objectives of the program along with a strategy or design for collecting data and information. The monitoring strategy will also define the core water quality indicators for the program, QA requirements and data management, analysis and assessment methodology. Lastly, the strategy will outline the reporting requirements and programmatic evaluation and needs planning that will be implemented to assure the program is serving the water quality needs of the Tribe.

B. Water Quality Assessment Report

This report will include the components listed in Appendix A: Assessment Reports II. Water Quality Assessment Report from the Final Guidance on Awards of Grants to Indian Tribes under Section 106 of the Clean Water Act document published October 2006. In summary, the report will include an atlas table of KBIC tribal water resources and a narrative description of tribal water

quality monitoring programs and assessment methods used. The report will also discuss the results and findings from water quality monitoring and any issues of concern to the tribe or water quality stakeholders.

The Water Quality Assessment Report will be submitted within 90 days of the contract period end date for this new 2-year grant period as specified in the Programmatic Conditions section of the EPA Grant Agreement document.

C. Electronic Copies of Water Quality Data

The Tribe will download water quality data into the EPA Region 5 WQX system annually at a minimum after completion of the data review and validation process.

1. Water Quality Standards/303,401 Program Authorization:

We will continue with the process of adopting tribal water quality standards. These standards will meet the specific needs of the Community by identifying and defining the uses unique to our culture and establish associated numeric and narrative criteria to protect these uses. As part of this objective, the tribe has continued with its pursuit of program authorization for CWA 303,401 by working closely with US EPA and the Region Council toward completion of the application. We are aware this process will take time we will continue the process until completed.

a. Program Strategy:

How do we ensure that the cultural, spiritual and medicinal uses of the water resources on the Reservation are protected?

The establishment of tribal water quality standards will meet the unique needs of the Community by instituting a heightened protection of Reservation waters mandated by the Community's cultural, medicinal, and spiritual uses of surface water. These standards will serve as the foundation upon which the Tribe's water program will be built by establishing the water quality goals for the Reservation's waters.

b. Objectives:

1). CWA 303,401 Program Authorization: We will assemble and transmit any information and/or documentation requested by the EPA during the processing and approval of our 303,401 program authorization application.

2). Water Quality Standards: We will adopt tribal water quality standards that identify and define uses unique to our community and establish numeric and narrative criteria to protect these uses.

c. Design:

1). CWA 303 Program Authorization: The EPA will review all documentation and information submitted as part of our completed application. We will submit any additional documentation and information as requested by the EPA.

2). Water Quality Standards: The Tribal Council, EPA and the public at large shall participate in the review and revision process of developing water quality standards. After two public meetings and a 60 day period of public review, we will make any necessary revisions to the draft standards. Upon the completion of these revisions, the draft will be submitted to the Keweenaw Bay Tribal Council for final approval. After the Tribal Council has approved the standards, the standards will be officially submitted to the EPA along with a completed 303,401 TAS application for final review and approval.

d. Core and Supplemental Indicators:

1). CWA 303,401 Program Authorization: The EPA will review our application for CWA 303,401 Program Authorization. If any additional information is required during the final review of our application, then we will provide this information in a timely manner. This is an ongoing process that could extend into FY2011 and even FY2012.

2). Water Quality Standards: The WQS are not going to be approved in time for the TAS application process, but will be done soon after. If no revisions are required after the end of the public comment period, the draft water quality standards will be submitted to the Tribal Council for final review and adoption by. If revisions are necessary after the public comment period, then standards will be revised. Further revisions may be required as part of the review by the Tribal Council and a second, technical review by the EPA technical contacts. If the EPA technical contacts and the Tribal Council are satisfied with the final draft of the standards, the water quality standards shall be officially submitted to the Council for adoption, and subsequently submitted to the US EPA for final review and approval.

e. Quality Assurance:

The decision errors are not applicable to this objective as EPA's oversight will ensure no errors and thus determine false positives and false negatives.

f. Data Management:

We will utilize available data for development of our standards and 303,401 status, as well as data accumulated under this workplan and associated QAPP's.

We will also utilize data from State and Federal agencies to strengthen our application where it is deemed necessary.

g. Data Analysis/Assessment:

We will be working with the EPA and other various (USGS, GLFWC, ITC, MTU etc.) agencies to analyze and reassess all phases of our application before final submission.

h. Reporting:

Progress reports will be submitted according to the grants requirements and guidelines. The reporting requirement at present is written quarterly reports submitted to the EPA project coordinator and upon closure of grant. Copies of all public outreach material generated as part of

the public review and education aspects of this project will be submitted to the EPA.

i. Programmatic Evaluation:

It is expected that KBIC will obtain programmatic approval under section 303,401 of the CWA and subsequently obtain US EPA approved Tribal Water Quality Standards and eventually authority to administer permitting under section 404 of the CWA.

j. General Support and Infrastructure Planning:

The estimated cost of this project for FY2011-FY2012 is: $68,547.61. The specific costs of this project are: Personnel Salary and Fringe: $43,244.72 (FTE 0.30 at $**15.76**/hr; Fringe: $16,799.72) Other Supplies: $3000.00 Other Fees (Phone/Internet): $1250.00 Vehicle Lease/Training/Travel: $7,300.00 Office Space: $4,275.00 Indirect Cost (Salary * 35.84%) = $9,477.89

2a. Surface Water Quality Monitoring:

We will continue with our surface water quality monitoring program, by implementing a core monitoring program of reservation waters, utilizing the same sampling procedures, parameters and strategies of the baseline program, but changing the sampling sites to obtain a broader picture of the Reservation waters, to compare to the baseline data set. A continued, core monitoring program is necessary to insure that current water quality of the surface waters on the Reservation is not impaired. It will also enhance the multi-year, baseline project database and will include all watersheds which encompass the Reservation.

a. Monitoring Strategy.

During the grant cycle we will monitor a number of sites predetermined during the development of our QAPP for this project. The parameters we will monitor, and the sites which we monitor, have been determined by the QAPP (**See Attachments IV and V**) for this project. If water quality is found to be degraded, we will develop a corrective action plan and seek additional funding to implement the plan. The sites monitored in these fiscal years will be monitored as part of an ongoing effort to build a baseline water quality database for the Reservation's waters.

All of the sites existing within the Silver Watershed will be used to help establish and monitor water quality potentially affected by the mining exploration ongoing within the watershed.

b. Monitoring Objective:

What is the current quality of Reservation waters?

The surface waters of Keweenaw Bay Indian Community are critical resources for both human and environmental health. While these resources are believed to be relatively pristine, monitoring efforts are needed to assure their future quality. Monitoring has established a baseline for the current state of surface water quality for Reservation waters, a necessary first step in obtaining tailored, Water Quality Standards for Keweenaw Bay Indian Community waters. Annual monitoring now serves to track any trends or changes in water quality, in addition to enhancement of the baseline dataset.

The expected results are that the knowledge base of Reservation watersheds will increase. The water resources will be protected, water quality standards will be met and any emerging impacts will be detected.

c. Monitoring Design:
This scope of the monitoring program will include the entire Reservation as defined by its exterior boundaries and the watersheds that encompass the reservation. The number and location of the sites sampled will follow the guidelines established in the QAPP for this project.

The quality of surface water shall be evaluated by comparing results with existing data sets for similar waters on the Reservation, previous studies of regional waters, state/federal water quality standards, and Great Lakes Water Quality Initiative. Sources of these data sets include but are not limited to: Michigan Department of Environmental Quality, the Michigan Department of Natural Resources, USGS, Bureau of Indian Affairs, and the Lake Superior Binational Program.

The parameters used to determine the level of water quality within the sampling locations are listed in **Attachment V**. These include the 9 mandatory parameters required by the region V guidance.

d. Core and Supplemental Water Quality Indicators:

We will monitor the sites selected during the development of the QAPP for the parameters chosen within that document. If water quality is degraded, we will then develop a corrective action plan and seek funding sources to implement this plan. If the water quality is identified as not degraded, we will take no further action. Sites will continue to be monitored annually through FY2012 for the development of a database on Reservation water quality. The length of this monitoring will be determined by the QAPP for this project.

e. Quality Assurance:

Decision errors are described in the EPA approved QAPP for the Surface Water Monitoring Program. The QAPP for this project will be submitted to the US EPA for approval before sampling commences.

f. Data Management:

Data acquired through sampling will be put into a few different databases and reports as follows.

1) STORET – All analytical and sampling data will be input into the STORET database.
2) GIS – A comprehensive GIS database will be created and maintained from data acquired through sampling.

g. Data Analysis/Assessment:

Data analysis for this project will be conducted by the Natural Resources staff for the Keweenaw Bay Indian Community. All data will be reviewed as it is received before entry into our databases.

h. Reporting:

Progress reports will be submitted according to the grant's requirement and guidelines. The reporting requirement at present is written quarterly reports submitted to the EPA project coordinator and upon closure of grant. This includes the water quality assessment report as per the TAR required by the EPA. +These reports shall include a summary of the tasks completed as they relate to this project and a summary of all the data collected to date.

i. Programmatic Evaluation:

The environmental problems requiring solutions are that development, industry and human activities are impacting Reservation water resources. No other agency is currently monitoring the streams, inland lakes and Keweenaw Bay to determine the effects of such activities and whether or not the currently applied water quality standards are being met. Continuous monitoring serves to insure that Reservation water resources are protected and that the currently applied water quality standards are being met. Monitoring also serves to enhance our knowledge of the current state of Reservation water resources, adding to the baseline, water quality dataset.

j. General Support and Infrastructure Planning:

The total cost for this project in FY2011-FY2012 will be: $245,278.05 The specific costs associated with this project are: Personnel Salary/Fringe: $103,869.76 (Water Resources Specialist: $15.76/hr FTE 0.30; Water Resource Technician: $11.89/hr FTE 0.50; Fringe:$41,662.26) Other Supplies: $6,120.00 Outside Laboratory Costs: $98,743.12 Vehicle Lease/Travel/Training: $7,300.00 Office Space: $5,700.00 Telephone/Internet: $1250.00 Indirect Cost (Salary * 35.84%)= $22,295.17

2b. Silver River Watershed Monitoring (Mining):

In response to recent metallic sulfide mining exploratory activity, KBIC will perform a water quality study of the Silver River Watershed. This study will address concerns of the community over the potential impact of proposed, metallic sulfide mining to the watershed by establishing a comprehensive baseline data set that includes parameters necessary to determine sulfide mining related impacts and measure resource injury. Actual sampling will depend on funding as well as quality and results of FY 2011 sampling, per the EPA approved QAPP for this project.

a. Monitoring Program Strategy.

The environmental problems requiring solutions are that several mining firms are actively exploring within the L'Anse Indian Reservation, in hopes of extracting metallic sulfide minerals. At least one form has identified a site for a potential nickel-sulfide mine. Such mining activities have been shown to create a significant, negative impact on the surrounding ground and surface water resources and wildlife. There is a need to collect baseline water quality and biologic data to characterize the "pre-development" conditions that exist in the watershed targeted for sulfide mining operations, in order to insure that no undocumented, significant impacts occur in the watershed.

b. Monitoring Objectives:

What is the current quality of Silver River Watershed and how can KBIC detect and quantify any impact from proposed, metallic sulfide mining within the watershed?

The surface waters of the Silver River Watershed are critical resources for both human and environmental health. While these resources are believed to be relatively pristine, additional monitoring efforts are needed to ensure their future quality and protect these waters from potential impacts caused by metallic sulfide mining that has been proposed within the watershed. Extensive monitoring will establish a comprehensive baseline data set that includes parameters necessary to determine sulfide mining related impacts and quantify resource injury.

During the grant cycle we will monitor a number of sites predetermined during the development of our QAPP for this project. The parameters we will monitor, and the sites which we monitor, have been determined by the QAPP for this project. The sites monitored in this fiscal year will be monitored to build a baseline water quality database for the Silver River Watershed that will specifically address the potential impacts from metallic sulfide mining.

The expected results are the collection of a detailed, baseline water quality dataset that will allow for a pre-development characterization of the Silver River Watershed.

c. Monitoring Design:

This scope of the monitoring program will include the Silver River Watershed as defined by its exterior boundaries. The number and location of the sites sampled will depend on available funding and follow the guidelines established in the QAPP for this project.

During FY2007 remote sensing units were purchased to help increase our monitoring ability for this now sensitive area. This equipment will be in use throughout the FY2011.

The parameters used to determine the level of water quality within the sampling locations are listed in **Attachment V**. These include the 9 mandatory parameters required by the region V guidance. In addition to these parameters we will be sampling for low level metals at the selected locations outlined in the agreement with KBIC. See **Attachment VI**.

d. Core and Supplemental Water Quality Indicators:

We will monitor the sites selected during the development of the QAPP for the parameters chosen within that document. Sites will continue to be monitored for the development of a database on Reservation water quality. The length of this monitoring will be determined by the QAPP for this project.

e. Quality Assurance:

Decision errors will be described in the EPA approved QAPP for the Surface Water Monitoring Program.

f. Data Management:

Data acquired through sampling will be put into a few different databases and reports as follows.

1) STORET – All analytical and sampling data will be input into the database as soon as

approval for disclosure of this data is given by the Tribal Council.
2) 305 (b) – The semi-annual report will include all relevant information generated by this study.
3) GIS – A comprehensive GIS database will be created and maintained from data acquired through sampling.

g. Data Analysis/Assessment:

Data analysis for this project will be conducted by the Natural Resources staff for the Keweenaw Bay Indian Community. All data will be reviewed as it is received before entry into our databases.

h. Reporting:

Progress reports will be submitted according to the grant's requirements and guidelines. The reporting requirement at present is written quarterly reports submitted to the EPA project coordinator and upon closure of grant, including a programmatic self-analysis and a summary of reservation waters. These reports shall include a summary of the tasks completed as they relate to this project and a summary of all the data collected to date.

i. Programmatic Evaluation:

The design and implementation of this part of the program will be reviewed as data comes in and quarterly by internal staff and the EPA.

j. General Support and Infrastructure Planning:

The total cost for this project in FY2011-FY2012 will be: $164,573.30. The specific costs associated with this project are: Personnel Salary/Fringe: $62,207.50 (Water Quality Specialist $15.76/hr FTE 0.30; Water Resource Technician: $11.89/hr FTE 0.50; Fringe: $41,662.26), Other Supplies: $2980.00, Travel/Training/Vehicle Operation and Lease $1,825.00, Laboratory Analysis $29,328.37, Space Lease $4,275.00, Indirect Cost $22,295.17.

3. Participation in Committees interested in Water Protection:

We will continue our participation on committees with water protection goals. The objective of our participation in these committees are to assure that 1) the concerns of the committees reflect the interests of the Community, and 2) the programs established on the Reservation are consistent with the goals of these committees. Committees and organizations in which we will continue our participation include: Lake Superior Binational Program Workgroup's Habitat Committee and Aquatic Committee; Lake Superior Task Force; Michigan Tribal Environmental Group; Keweenaw Bay Indian Conservation District's Natural Resources Committee; and other pertinent groups as time and funds will allow.

a. Strategy:

We will send a representative from Keweenaw Bay Indian Community to participate in local and

regional organizations that also have an interest in protecting water resources.

We will participate in regional organizations with water quality interests by being an active member of the Lake Superior Binational Program Work Group. Our participation will consist of our involvement with the Habitat and Aquatic Work Group Committees. KBIC is also represented by the water quality specialist on the Public Advisory Council for the Deer Lake Area of Concern.

b. Objectives:

Are the goals of Keweenaw Bay Indian Community's Water Quality Protection and Management Program compatible with those of local and regional organizations?

The Keweenaw Bay Indian Community is responsible for the management of more than 70,000 acres of land including approximately 17 miles of Lake Superior shoreline, 80 miles of streams and rivers, 15,000 acres of lakes and 3000 acres of wetlands. As a stakeholder in the region, it is necessary that we participate in local and regional organizations that share similar water protection goals. This participation is necessary to ensure our goals reflect, or are compatible with, the goals of these other organizations. In addition, it is necessary for us to ensure that these organizations reflect our goals as well. Our participation in the process of developing these goals will assure positive representation of the KBIC Natural Resources Department and water programs.

It is expected that KBIC and committees will share a set of more common goals toward the protection and maintenance of water resources in the area and region. This should help to insure a more efficient use of resources and a greater knowledge of those resources we are trying to protect.

c. Design:

Our participation will be limited to organizations with either: 1) an interest in local water pollution issues, 2) a regional water pollution interest in which we are a stakeholder, such as protecting Lake Superior, 3) an interest in wetlands management and protection.

The environmental problems that require solutions are that Tribal interests may not protected, or taken into account by committees in the area without representation of KBIC. At the same time, shared goals of both the Tribe and various committees may not be attained without active participation and input from one another. Participation helps to insure that our goals remain compatible and that they are more likely to be met though cooperation and the use of shared resources and information.

d. Core and Supplemental Water Quality Indicators:
There is no sampling design for Committee participation.

e. Quality Assurance:

Decision errors are related in Committee participation.

f. Data Management:

There is no data management needed as part of committee participation.

g. Data Analysis/Assessment:

There is no data management needed as part of committee participation.

h. Reporting:

Progress reports will be submitted according to EPA's requirements. These requirements at present are written quarterly reports submitted to the EPA project coordinator. Copies of all agendas for meetings attended will be submitted to the EPA along with this quarterly report.

i. Programmatic Evaluation:

If the interests of these committees continue to be relevant to the interests of Keweenaw Bay Indian Community, then we will continue to participate on said committees. If other organizations approach us and seek a representative from Keweenaw Bay Indian Community, then we will consider participating if: 1) their concerns and interests are found relevant to the Community; 2) there is available staff with time to participate in the organization's activities.

j. General Support and Infrastructure Planning:

The total cost of this project for FY2011-FY2012 will be: $10,074.60. The specific costs associated with this project will be: Personnel Salary/Fringe: $4,407.50 (Water Resources Specialist: $15.76/hr, FTE 0.05; Fringe= $2,799.95) Other Supplies: $375.00 Vehicle Lease/Travel/Training: $912.50 Indirect Cost (Salary * 35.84%) =$1,579.65

4. Public Outreach and Education:

We will continue our efforts to educate the public about water quality, wetlands protection, groundwater, and pollution prevention. This aspect will be incorporated into each project outlined for this grant cycle.

Public education and outreach will be accomplished by participating or hosting in activities such as 1) making educational presentations at public events, 2) preparing educational displays for public events, 3) preparing and distributing educational material, 3) educating the Community on wetlands protection.

a. Strategy:

The focus of the efforts and projects associated with this objective will be on the local community of the L'Anse Reservation.

We will take advantage of every opportunity for public education as part of our activities funded by this grant.

If we are invited to participate in a public outreach event, or see a way to incorporate a public educational aspect as part of the projects funded by this grant, then we will pursue these

opportunities as funding and time allow.

b. Objective:

How do we generate public interest and participation in the protection of our water resources? Increasing the public's awareness of their role in the protection of our water resources is an important aspect to incorporate into a comprehensive water quality protection and management program. With the public as an invested partner in the effort to protect our water resources, the success of the program is immeasurably enhanced. This is especially true with the creation and implementation of our Source Water Assessment and Protection Plans as well as for other projects such as the well abandonment inventory and watershed inventories, where public input is crucial to the success of the projects.

It is expected that the Community will become more informed about activities that can negatively impact Reservation water resources. From this awareness, it is expected that some amount of potential, negative impact will be averted and that the public will actively participate in the protection of water resources.

c. Design:

As part of our participation with inter-departmental committees, other organizations with water pollution interests, and as part of our work on projects funded by this grant, we will seek opportunities to incorporate public education into our activities. These types of activities include: 1) participating in public outreach activities planned by other tribal government departments or local community organizations. Examples of this participation include such activities such as hosting an information booth or sponsoring a community collection of household pollutants; 2) participating in or sponsoring public meetings that are planned as part of the process of developing an integrated resource management plan, developing water quality standards, wetlands protection, and other Community water resource issues. 3) Working with local schools to develop ongoing programs and water-related projects designed to stimulate interest in water conservation and protection, as well as to foster a sense of investment and ownership our water resources, such as local involvement in data collection during World Water Monitoring Day and presentations to the local schools.

d. Timeline:

We have the Environmental Fair in April of each year and the Kid's Fishing Derby in June of each year. We also work with the area schools and local youth groups as opportunities arise throughout each fiscal year.

e. Core and Supplemental Water Quality Indicators:

There is no sampling design for Public Education/Outreach.

f. Milestones:

We work with other programs within our department to help with the Environmental Fair and Kids Fishing Derby to promote good stewardship while out of doors. Our focus is on water quality. We also take any opportunities to work with youth groups and school programs to help teach kids about

the importance of good water quality.

g. Quality Assurance:

Decision errors are related in Public Education/Outreach.

h. Data Management:

There is no data management needed for Public Education/Outreach.

i. Data Analysis/Assessment:

There is no data analysis/assessment needed beyond Programmatic Evaluation needed.

j. Reporting:

A summary of all activities related to efforts of public education will be presented as part of the quarterly reports generated to satisfy EPA requirements. Examples of any educational material generated by these efforts will be submitted along with all quarterly reports.

k. Programmatic Evaluation:

The problem requiring a solution is that a public unaware of the environmental concerns affecting its water resources is less able to make good decisions about those resources and also more likely to abuse or contaminate them. Public awareness and education helps to build a sense of investment and ownership in the resources, fostering a greater understanding and caring community that will seek to actively protect and enhance its resources and surrounding environment.

l. General Support and Infrastructure Planning:

This project for FY2011-FY2012 will cost: $10,074.60. The specific costs associated with this project will be: Personnel Salary/Fringe: $4,407.50. (Water Resources Specialist: $15.76/hr, FTE 0.05; Fringe= $2,799.95) Other Supplies: $375.00 Travel/Training/Vehicle Lease: $912.50 Indirect Costs (Salary * 35.84%) = $1,579.65

V. Other Specific Water Program Activities and Projects

Other related water programs for KBIC include: 1) Well abandonment project, which is funded through a BIA grant and 2) Wetland inventory of the L'Anse Reservation is being funded by the U.S. Fish and Wildlife Service; substrate mapping of Keweenaw and Huron Bays of Lake Superior was completed during FY2006. Sediment sampling of Keweenaw and Huron Bays was completed in FY2007, as well as 3) a sensitive plant inventory of our Reservation is being funded by an EPA GAP grant and GLNPO. We also have 4) stream restoration and erosion control projects on the Falls River, Zeba creek, and Little Carp River being funded by USFWS and NRCS, all of these projects were completed as of FY2008. 5) KBIC water program staff will also be involved in various activities related to metallic sulfide mining within the L'Anse Indian Reservation, which may include, but are not limited to; committee and workgroup participation, document review and oversight on

other projects similar to the proposed Silver River Watershed monitoring project (objective 2.b of this workplan). 7) KBIC Water program Staff will also assist KBIC Public Water Supply operators with various compliance and reporting issues as they arise. 8) KBIC Water program Staff will also address various Reservation water quality issues as they are brought forth by KBIC members, such as wild rice, wetlands, abandoned wells, drinking water, point and non-points source discharges. 9) Stormwater Inspector Certification will be attained by two staff members before the start of FY2009. These activities can all be related back to one or more of the KBIC workplan objectives, such as data, or resource sharing, overlapping issues such as Keweenaw Bay being a monitored surface water body as well as the source water for three public water supplies that service KBIC members.

VI. Other Funding Sources

This EPA workplan and proposal is supported by 5% match from the Tribal Council and supportive BIA water resources projects.

VII. Deliverables

1) The MBE/WBE reports will be sent quarterly along with procedural reports due to the EPA.

2) Quarterly reports will be competed and sent to the EPA within 30 days of the end of each quarter.

3) A Tribal Assessment Report, which includes the Water Quality Assessment Report, will be submitted at the end of FY2012 as per the new region V guidance.

4) The end of fiscal year report will be submitted for this grant cycle FY2011 on or before April 30th, 2012.

VIII. Time Frame

The time frame for this proposal is FY2011-FY2012 or October 1, 2010 through March 31, 2013. The attached budget (Attachment II) details specific costs. A USEPA Object Class format budget is also included as Attachment III.

Attachments

Attachment I.

Attachment II.

Expenditures

Federal
Tribal Match
Total

50140 Coordinator

Water Quality Specialist ($16.00/hr, 40 hours/week, 52 weeks)
Director/Coordinator: October 1, 2009 - September 30, 2010.
$83,200.00
$4,950.00
$88,150.00

KBIC Water Resources Technician ($12.80/hr, 40 hours/week, 52 weeks)
KBIC Natural Resources Technician, October 1, 2009 - September 30, 2010
$66,575.00
$4,950.00
$71,525.00

Total
$149,775.00
$9,900.00
$159,675.00

51100 Fringe:

state and fed, unemploy tax, life ins, BC/BS, Wkmns comp
Water Quality Specialist: October 1, 2009 - September 30, 2010
$51,049.08
$4,950.00
$55,999.08

Water Resources Technician: October 1, 2009 - September 30, 2010
$44,775.08
$4,950.00
$49,725.08

Total

$95,824.16
$9,900.00
$105,724.16

52225 Other Supplies

Laboratory Supplies

$1,250.00
$0.00
$1,250.00

Office Supplies

$7,500.00
$0.00
$7,500.00

Field Supplies/Equipment

$4,100.00
$0.00
$4,100.00

Total

$12,850.00
$0.00
$12,850.00

53330 Vehicle Operation
Vehicle Lease

$2,500.00
$0.00
$2,500.00

53610 Vehicle Lease
Vehicle Operation

$9,500.00
$0.00
$9,500.00

53310 Travel/Training

Travel/Training

$6,250.00
$0.00
$6,250.00

Total

$18,250.00
$0.00
$18,250.00

53620 Space Lease
Office Space

$14,250.00
$0.00
$14,250.00

53650 Other Fees

$0.00
$0.00
$0.00

53210 Telephone
Telephone/Internet

$2,500.00
$0.00
$2,500.00

53110 Consultant
Outside Laboratory Costs

$128,071.49
$0.00
$128,071.49

Consultation Fee

$0.00
$0.00
$0.00

Total

		$130,571.49
		$0.00
		$130,571.49
55140 Capital Outlay-Equipment		
Equipment		
		$0.00
		$0.00
		$0.00
54110 Indirect Cost:	Salary x 35.84%	
Total		
		$53,679.35
		$0.00
		$53,679.35
Total Operating Expenditures		
		$475,200.00
		$19,800.00
		$495,000.00

Attachment III.

EPA CWA 106 Grant (Account 305)
Budget FY2011
KBIC Accounting Format

		Budget
50101	Water Quality Specialist (Micah)	83,200.00
50140	Coordinator	0.00
50309	Water Tech (Kit)	66,575.00
51099	Fringe - SS Employer (Micah)	5,158.40
51099	Fringe - SS Employer (Kit)	4,127.65
51100	Fringe (Micah)	37,770.00
51100	Fringe (Kit)	33,840.00
51101	Fringe- Employer medicare (Micah)	1,206.40
51101	Fringe- Employer medicare (Kit)	965.34
51102	Fringe-State Unemployment (Micah)	630.00
51102	Fringe-State Unemployment (Kit)	630.00
51103	Fringe-401K (Micah)	0.00
51103	Fringe-401K (Kit)	0.00
51104	Fringe-Workmans Comp (Micah)	4,925.44
51104	Fringe-Workmans Comp (Kit)	3,941.24
51105	Fringe-Life and Disability (Micah)	1,358.83
51105	Fringe-Life and Disability (Kit)	1,270.85
51106	Fringe-FUTA Taxes (Micah)	0.00
51106	Fringe-FUTA Taxes (Kit)	0.00
52225	Other Supplies	12,850.00
53110	Consultant/Lab Analysis	128,071.49
53210	Telephone	2,500.00
53310	Travel/Training	6,250.00
53330	Vehicle operation	9,500.00
53610	Vehicle Lease	2,500.00
53620	Equipment Lease	0.00
53650	Space Lease	14,250.00
53850	Other Fees	0.00
54110	Indirect Cost	53,679.36
55140	Capital Outlay-Equipment	0.00
	Total	**475,200.00**
	Revenues	
41195	Federal - EPA	475,200.00
48100	Matching - BIA 179	19,800.00
41115	Carryover Funds	0.00
	Total Revenues	**495,000.00**

Attachment IV.

QAPP	Name	FY2011	FY2012
SR1HD	Silver River 1 Headwaters	X	X
SR2NP	Silver River 2 Monitoring Station	X	X

SR3NP	Silver River 3 Monitoring Station	X	X
SR4MO	Silver River 4 Mouth	X	X
DC1MS	Dakota Creek 1 Monitoring Station	X	
GC1MS	Gomanche Creek 1 Monitoring Station		X
LSC2MO	Little Silver Creek Mouth	X	
LSC1HD	Little Silver Creek Headwaters	X	
LC1MS	Linden Creek 1 Monitoring Station		X
DAC1MS	Daults Creek 1 Monitoring Station		X
DEC1MS	Denomee Creek 1 Monitoring Station		X
FR1HD	Falls River 1 Headwater	X	X
FR2MO	Falls River 2 Mouth	X	X
BC1MS	Boyers Creek 1 Monitoring Station		X
RC1MS	Roubillard Creek 1 Monitoring Station	X	
MC1MS	Menge Creek 1 Monitoring Station	X	
BLC1MS	Black Creek 1 Monitoring Station	X	
HC1MS	Hazel Creek 1 Monitoring Station	X	
TC1MS	Tangen Creek 1 Monitoring Station		X
MDC1MS	Mud Creek 1 Monitoring Station		X
CC1HD	Carp Creek Headwater	X	X
CC2NP	Carp Creek Non-point	X	
CC3MO	Carp Creek Mouth	X	X
KC1MS	Kelsy Creek 1 Monitoring Station		X
SC1MS	Secret Creek 1 Monitoring Station		X
PC1MS	Paiges Creek 1 Monitoring Station		X
RI1MS	Roubillard Impoundment		X
TA1MS	Taylor Creek 1 Monitoring Station	X	
BR1MS	Burns Creek 1 Monitoring station	X	
OG1MS	Ogemaw Creek 1 Monitoring Station		X
TL1MS	Third Lake 1 Monitoring Station	X	X
LL1MS	Laws Lake 1 Monitoring Station	X	X
BL1MS	Bishop Lake 1 Monitoring Station	X	X
SP1MS	Sand Point 1 Monitoring Station	X	X
LS1HD	Lake Superior 1 Headwater	X	X
LS2NP	Lake Superior 2 non-point	X	X
LS3PS	Lake Superior 3 non-point	X	X
WSR1MS	West Sleeping River 1 Monitoring Station	X	X
WSR2MO	West Sleeping River 2 Mouth	X	X
ESR1MS	East Sleeping River 1 Monitoring Station	X	X

Attachment V.

Suface Water Parameters

Parameters

Date
Alkalinity (mg/L)
Cadmium (ug/L)
Calcium (mg/L)
Chloride (mg/L)
Chromium (ug/L)
Coliform, Fecal (col/100ml)
Conductivity (umho@25C)
Copper (ug/L)
Hardness (mg/L)
Iron (mg/L)
Lead (ug/L)
Magnesium (mg/L)
Manganese (ug/L)
Mercury (ug/L)
Nitrate (mg/L)
Nitrogen, Kjeldahl (mg/L)
Phosphorus tot. (mg/L)
Phosphorus tot. reac. (mg/L)
Potassium (mg/L)
Solids, total (mg/L)
Solids, tot. susp. (mg/L)
Sulfate (mg/L)
Zinc (ug/L)
Sulfide (mg/L)
Ammonia (mg/L)
pH
Temperature (C)
Dissolved Oxygen (mg/L)

*These parameters are used at each site covered under the Surface Water Monitoring Program.

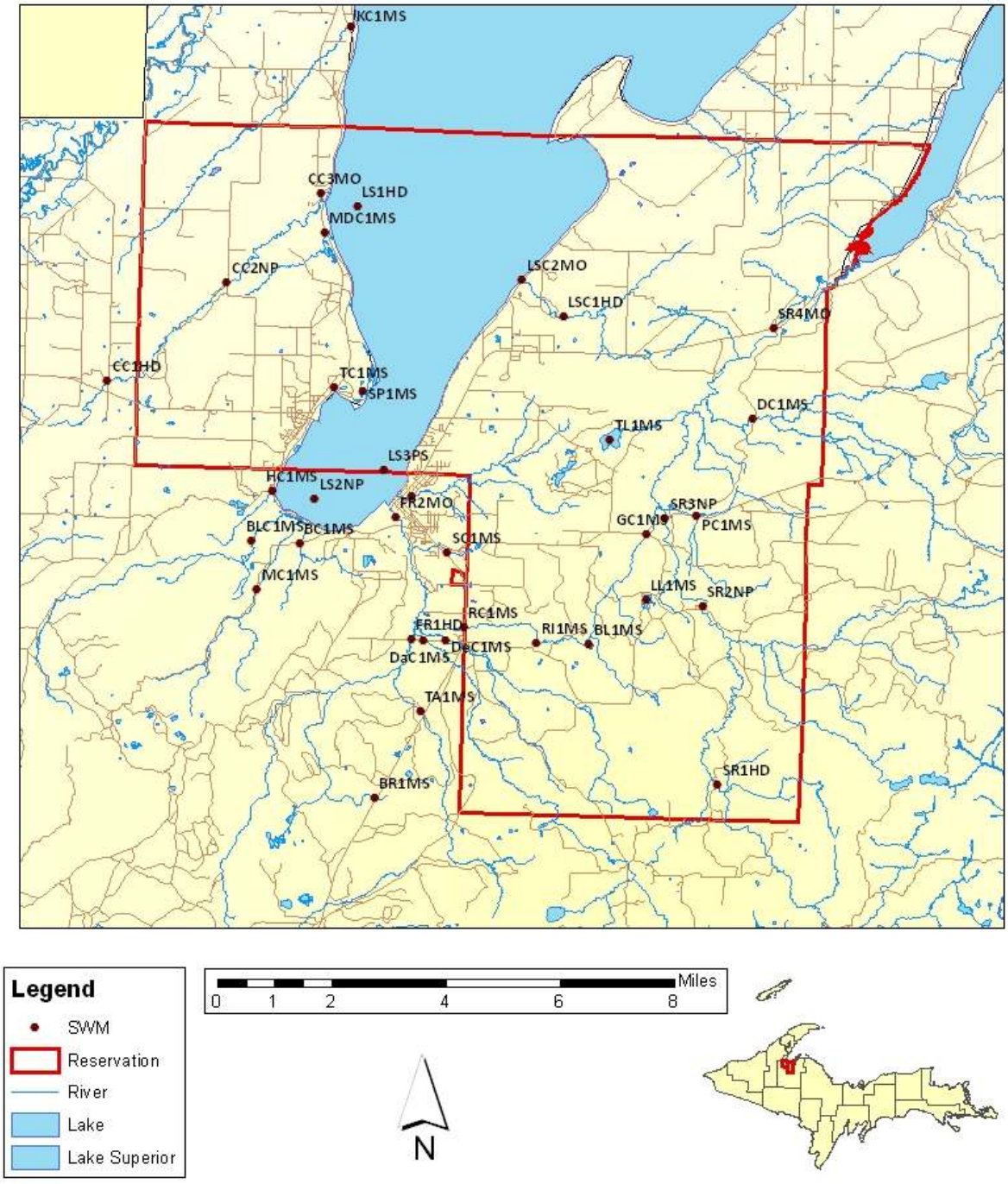
Drinking Water Parameters

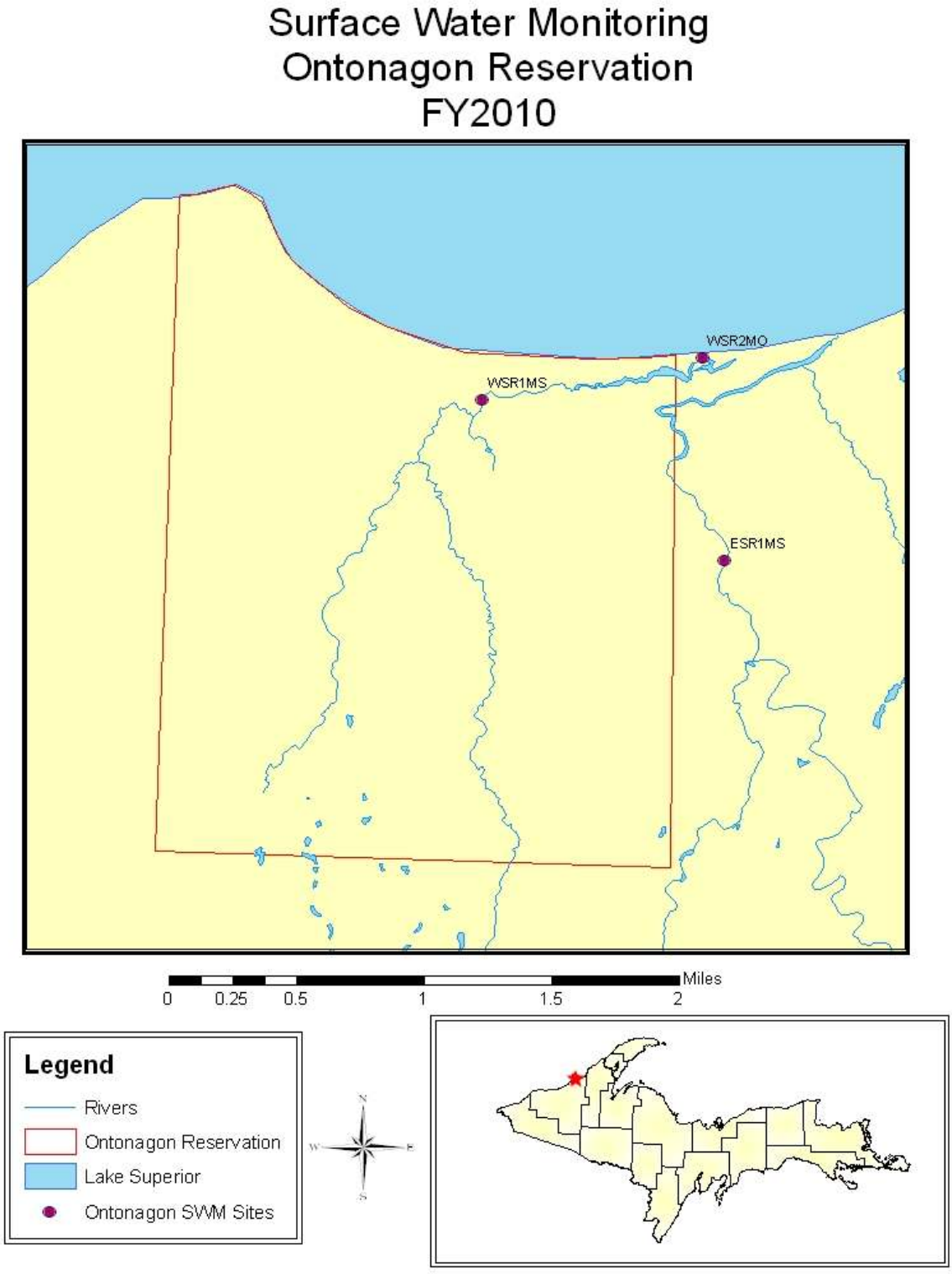
Parameters
Date
Alkalinity (mg/L)
Cadmium (ug/L)
Calcium (mg/L)
Chloride (mg/L)

Chromium	**(ug/L)**
Coliform, Fecal	**(col/100ml)**
Conductivity	**(umbo@25c)**
Copper	**(ug/L)**
Hardness	**(mg/L)**
Iron	**(mg/L)**
Lead	**(ug/L)**
Magnesium	**(mg/L)**
Manganese	**(ug/L)**
Mercury	**(ug/L)**
Nitrate	**(mg/L)**
Phosphorus, total	**(mg/L)**
Potassuim	**(mg/L)**
Sodium	**(mg/L)**
Sulfate	**(mg/L)**
Zinc	**(ug/L)**
Sulfide	**(mg/L)**
Ammonia	**(mg/L)**
pH	
Temperature	**(C)**

Attachment VI.

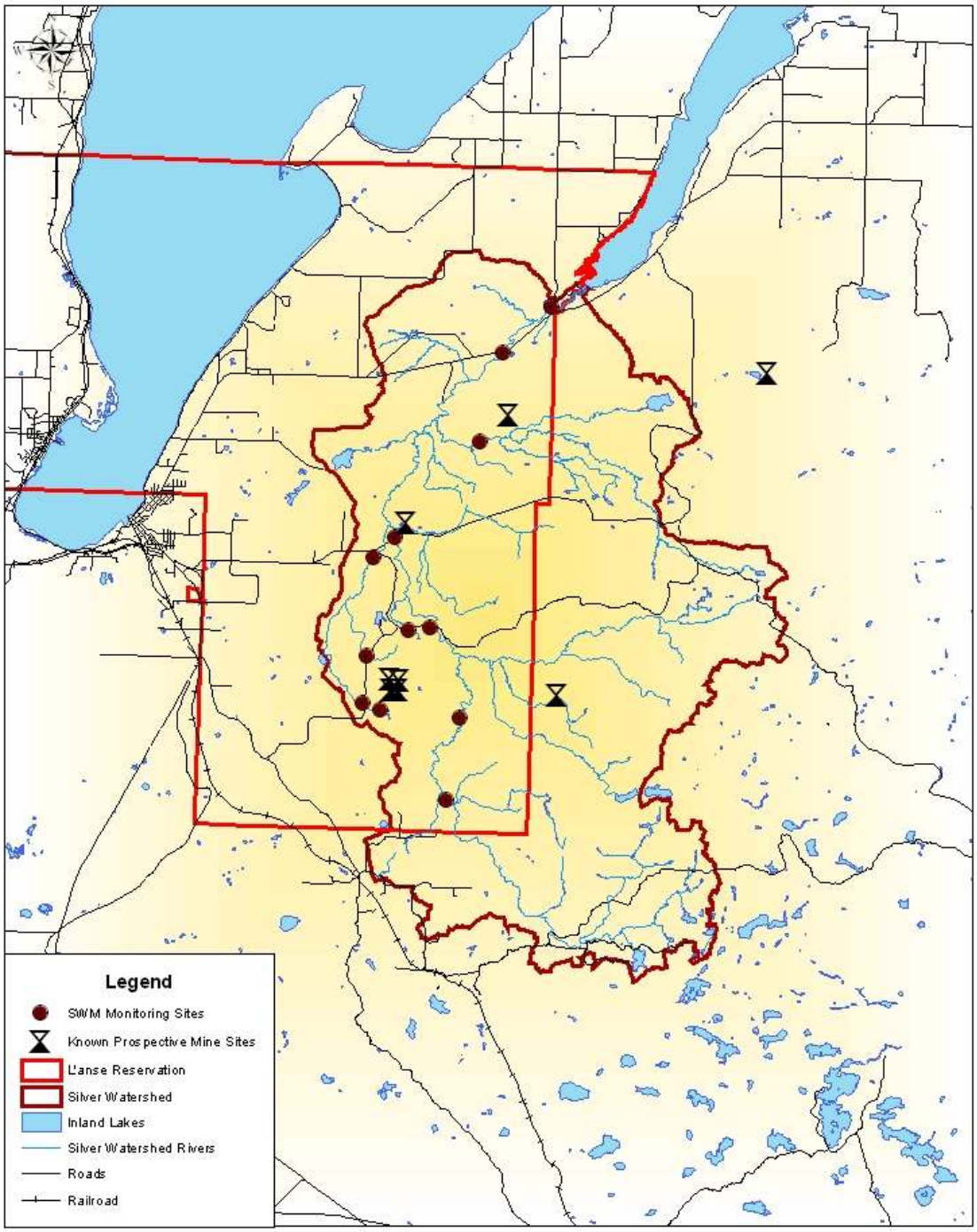
Surface Water Monitoring
FY2011 - 2012





Attachment VII.

Keweenaw Bay Indian Community
Silver Watershed Monitoring Sites



Cartographer: Micah Petoskey